

The Effect of Global GPS Analysis Strategies on the Analysis of Data from Regional GPS Networks

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Parameters determined from the analysis of data from a global GPS network, specifically satellite parameters, can be held fixed in the analysis of data from regional GPS networks. By doing so, efficient reduction of data from the regional network is possible, provided 110 other parameters (e.g. spatially-correlated tropospheres) connect data from different receivers.

We have analyzed GPS data from a ten-day period in July 1994 with a variety of global estimation strategies. Specifically, we have varied the number and distribution of sites in the global network, the data decimation interval, the treatment of the temporal variation in solar radiation pressure, and the elevation angle data cutoff.

The value of each strategy is assessed by examining orbit overlaps and earth orientation results, and by analyzing data from regional networks, where satellite parameters are held fixed at their values determined in a global analysis.

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